

Amendments to the Claims:

This listing of claims will replace all prior versions and listings of claims in the application.

1. (Cancelled)
2. (Cancelled)
3. (Cancelled)
4. (Previously Presented) A method for discriminating between textual content and graphical content in an image comprising:
 - receiving a plurality of pixel values for a pixel line segment;
 - calculating a plurality of spatial gradients based on pixel values of adjacent pixels;
 - calculating a first statistical characteristic of the plurality of spatial gradients by squaring each of the spatial gradients to generate a plurality of squared gradients and summing the squared gradients;
 - calculating a second statistical characteristic of the plurality of spatial gradients;
 - dividing the second statistical characteristic by the first statistical characteristic to generate a smoothness index; and
 - identifying the pixel line segment as one of a text segment or a graphic segment by comparing the smoothness index to a threshold value.
5. (Previously Presented) A method for discriminating between textual content and graphical content in an image comprising:
 - receiving a plurality of pixel values for a pixel line segment;
 - calculating a plurality of spatial gradients based on pixel values of adjacent pixels;
 - calculating a first statistical characteristic of the plurality of spatial gradients;
 - calculating a second statistical characteristic of the plurality of spatial gradients by determining an absolute value of each of the spatial gradients, summing the absolute gradients, and squaring the sum value;
 - dividing the second statistical characteristic by the first statistical characteristic to generate a smoothness index; and

identifying the pixel line segment as one of a text segment or a graphic segment by comparing the smoothness index to a threshold value.

6. (Cancelled)

7. (Cancelled)

8. (Cancelled)

9. (Previously Presented) A method for discriminating between textual content and graphical content in an image comprising:

receiving a first plurality of pixel values for a pixel line segment and a second plurality of pixel values for the pixel line segment;

calculating a plurality of spatial gradients for the pixel line segment based on the first plurality of pixel values of adjacent pixels;

determining a smoothness index in response to the plurality of spatial gradients by calculating a first statistical characteristic of the plurality of spatial gradients by squaring each of the spatial gradients to generate a plurality of squared gradients; and summing the squared gradient, calculating a second statistical characteristic of the plurality of spatial gradients, and dividing the second statistical characteristic by the first statistical characteristic to generate the smoothness index;

calculating a value by combining the second plurality of pixel values; and

identifying the pixel line segment as one of a text segment or a graphic segment by comparing the smoothness index to a first threshold value and the calculated value of the second plurality of the pixel values to a second threshold value.

10. (Previously Presented) A method for discriminating between textual content and graphical content in an image comprising:

receiving a first plurality of pixel values for a pixel line segment and a second plurality of pixel values for the pixel line segment;

calculating a plurality of spatial gradients for the pixel line segment based on the first plurality of pixel values of adjacent pixels;

determining a smoothness index in response to the plurality of spatial gradients by calculating a first statistical characteristic of the plurality of spatial gradients and calculating a second statistical characteristic of the plurality of spatial gradients by determining an absolute value of each of the spatial gradients, summing the absolute gradients; and squaring the sum value, and dividing the second statistical characteristic by the first statistical characteristic;

calculating a value by combining the second plurality of pixel values; and

identifying the pixel line segment as one of a text segment or a graphic segment by comparing the smoothness index to a first threshold value and the calculated value of the second plurality of the pixel values to a second threshold value.

11. (Cancelled)

12. (Cancelled)

13.(Cancelled)

14. (Cancelled)

15. (Cancelled)

16. (Cancelled)

17. (Previously Presented) An apparatus for discriminating between textual content and graphical content in an image comprising:

a converter for receiving a plurality of pixel values for a pixel line segment;

a separator module for:

calculating a plurality of spatial gradients based on pixel values of adjacent pixels;

calculating a smoothness index based on one or more statistical characteristics in response to the plurality of spatial gradients by calculating a first statistical characteristic of the plurality of spatial gradients by squaring each of the spatial gradients and summing the squared gradients, calculating a second statistical characteristic of the plurality of spatial gradients, and dividing the second statistical characteristic by the first statistical characteristic; and

identifying the pixel line segment as one of a text segment or a graphic segment by comparing the smoothness index to a threshold value.

18. (Previously Presented) An apparatus for discriminating between textual content and graphical content in an image comprising:

a converter for receiving a plurality of pixel values for a pixel line segment;

a separator module for:

calculating a plurality of spatial gradients based on pixel values of adjacent pixels;

calculating a smoothness index based on one or more statistical characteristics in response to the plurality of spatial gradients by calculating a first statistical characteristic of the plurality of spatial gradients, calculating a second statistical characteristic of the plurality of spatial gradients by determining an absolute value of each of the spatial gradients, summing the absolute gradients and squaring the sum value, and dividing the second statistical characteristic by the first statistical characteristic; and

identifying the pixel line segment as one of a text segment or a graphic segment by comparing the smoothness index to a threshold value.